

# **Appendix E: Data Quality Tools -Tables**

#### Security Assessment Questionnaire

WBS	Specific Control Objectives and Techniques	Policy Procedures Implemented Tested Integrated LAMMO
Manag	ement Controls	
	Risk Management	
	OMB Circular A-130, III	
1.1	Critical Element: Is risk periodically assessed?	
1.1.1	Is the current system configuration documented, including links to other systems?  NIST SP 800-18	
1.1.2	Are risk assessments performed and documented on a regular basis or whenever the system, facilities, or other conditions change?  FISCAM SP-1	
1.1.3	Has data sensitivity and integrity of the data been considered?  FISCAM SP-1	
1.1.4	Have threat sources, both natural and manmade, been identified?  FISCAM SP-1	
1.1.5	<ul> <li>Has a list of known system vulnerabilities, system flaws, or weaknesses that could be exploited by the threat sources been developed and maintained current? NIST SP 800-30</li> </ul>	
1.1.6	Has an analysis been conducted that determines whether the security requirements in place adequately mitigate vulnerabilities?  NIST SP 800-30	

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#### FMEA Analysis

Failure Modes and Effect Analysis (FMEA)

Failure Modes	Failure Modes and Effect Analysis (FMEA)										
	Potential	Potential		Potential							
<b>Process Step</b>	Failure Mode	Failure Effects	Severity	Causes	Occurrence	Current Controls	Detectability	Score			
		What is the									
		impact on the				What are the existing					
What is the	In what ways	Key Output		What		controls and procedures		Score =			
Process step	does the	Variables or	How severe is	causes the	How often does	(inspections and test) that	How well can you	Severity *			
under	Process Step	internal	the effect to the	Key Input to	cause of Failure	prevent either the cause or	detect cause or	Occurrence *			
investigation?	go wrong?	requirements?	customer?	go wrong?	Mode occur?	the Failure Mode?	Failure Mode?	Detectability			

Severity:
1 = None
4 = Moderate
7 = High
10 = Extended
Shutdown

Occurrence:							
1 = Almost Never							
4 = Occasionally							
7 = Frequently							
10 = Almost							
Always							

Detectability:
1 = Excellent
2 = Some leaks
3 = Frequent Leaks
10 = Almost
Undetectable

### FMEA SSIM Example

Failure Modes and E	Failure Modes and Effect Analysis (FMEA)										
Process Step	Potential Failure Mode	Potential Failure Effects	Severity	Potential Causes	Occurrence	Current Controls	Detectability	Score			
						No automatic					
Records are	Systems other than					verification of SSN.					
submitted to FSA	CPS and the PIN site	Invalid Student borrowers can be		Lack of a SSN match in		Manually have to					
systems with	do not verify SSN	created. (A student could potentially		COD, DLCS, DMCS, and		look up borrower and					
incorrect identifiers	numbers.	have multiple SSNs in FSA).	7	NSLDS	4	fix information.	3	84			

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#### Data Quality Scoring Table

		Score				
		Percent of Date				Is Data
	Percent of Blank	Duplicate	Percent of Blank	with Incorrect		Quality
Data Sample	Name Fields	Entries	Address Fields	Format		Acceptable?
Set	0.3	0.2	0.2	0.3	·	
А	0.6	1	0.4	0.6	2	Υ
В	0.9	1.6	0.6	2.1	4.3	Υ
С	<b>(</b> 1.8 <b>)</b>	2.4	1.2	2.7	6.3	N
(Percentage of total data point exhibiting defendance)	ts ect) x		Overall Data Quabelow 5 to be ac	<u> </u>	be	

#### **Decision Matrix Solution Assessment**

						Overal		
	Criteria with Weights							
		Deployment		Ease of	Customer			
Solution	ROI	Speed	System Impact	Implementation	Satisfaction			
Option	0.3	0.2	0.1	0.3	0.1			
Α	2.4	1.6	0.8	2.4	0.8	5.6		
В	3	2	1	3	1	(7)		
С	(1.8)	1.2	0.6	1.8	0.6	4.2		
(Sum of voted weight of metri	c			hest Score = t Overall Option				

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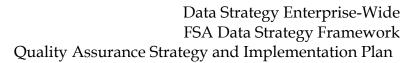


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## Control and Response Table

Control and Response									
Quality Issue:	SA mis-loads	Core Team:			Date (Orig):	10/31/2003			
Key Contact:	Mike Brown		Phone:	xxx-xxx-xxxx		Date (Rev):	11/01/2003		
Process Step	Resp.	Output	Input	Amount of Data	Frequency	Control Method	Response Plan		
Load FAFSA data	John Smith	Success	Applicant Data	50,000 rows	Daily	Field length validation, first and	Contact FAFSA technical analyst, verify system loads, etc		

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